

PROJECT TITLE : QA ANALYTICAL SERVICES  
PERIOD COVERED : OCTOBER 30 - NOVEMBER 24 1981  
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2.1. CASING KITCHEN

- WESTERN

Preparation procedures were established for the following solutions (1) : WEF-PC, LMA-AC, BURLEY CASING WEF, BURLEY TOP FLAVOUR WEF.

3.2.1. TRIALS WITH TOBACCO INGREDIENTS

- Citric acid (Supplier: HOFMANN-LA ROCHE, Basle; Producer: CITRIQUE BELGE S.A., Tirlémont (BE)/ yellow sheet 5928, 900 kg) (2)

Check of a normal production (PMM)

Laboratory: The sample is within the specifications.

Subjective evaluation: No significant difference between the standard and the trial was found.

Concluded on 09/11/81

- Diethylene glycol (Producer and supplier: BASF, Ludwigshafen (Germany))

The industrial trial on MLK-DB - cigarettes was repeated by PMG Berlin (3).

Smoke analyses: No significant difference between the standard and the trial was found.

Subjective evaluation: No significant difference between the standard and the trial was found.

The trial was accepted.

This result will be checked on a normal production (4)

- Glycerine (Producer: DOW CHEMICALS, Stade (Germany); Supplier: STOCKVIS, Rotterdam)

As Stockvis is a new supplier of the Dow Chemicals' glycerine that we use regularly, PMH, Bergen op Zoom, is planning to organize a check on a normal production.

Laboratory-wise, the sample is within the specifications (5).

- Honey (Supplier: SCHÜTTE, Bremen; Origin: ACAPULCO, Mexico) (see also 3.2.2.)

Concerning the supply problems of YUCATAN honey, a trial on MLF-It - cigarettes with the above-mentioned quality was run by PMG-Munich.

Subjective evaluation: A significant difference between the trial and the standard was found. The use of honey from ACAPULCO was not recommended (6).

As the source of supply of this quality is not assured, further trials are not planned.

- Honey (Supplier: SCHÜTTE, Bremen; Origin: CHIAPAS, Mexico) (see also 3.2.2.)

Concerning the supply problems of YUCATAN honey, a trial on MLK-DB - cigarettes was organized by PMG-Berlin.

Analytical results: The sample corresponds to the specifications.

Smoke analysis: No significant difference between the trial and the standard was found.

Subjective evaluation: A significant difference between the trial and the standard was found. The trial was rejected (7).

- Liquorice extract in blocks (A. MENOZZI & R. DE ROSA, Montesilvano (Italy) / yellow sheet 6128, 500 g)

The sample is within the specifications.

20 kg were ordered for an industrial trial (16/11/81).

- Liquorice extract in blocks

The question was raised as to whether liquorice in powder form should be replaced by liquorice in block form for commercial reasons.

A sample (Producer: FICHERA, Catania (Italy)) was submitted for analytical checking. The sample was, for the most part, within the specifications of liquorice in powder. However, the application of liquorice in blocks would require some important modifications to be made in the preparation of BURLEY CASING (preparation time, cooking time). Therefore, further trials are not planned (8).

- Liquorice extract in powder (EXTRAITS VEGETAUX ET DERIVES ("EVD"), Marseille / yellow sheet 6124, 1 kg of the quality "T2")

The sample is largely out of specifications as regards glycyrrhizic acid content (13.9 %). At the time being, further trials are not planned.

- Liquorice extract in powder (FERTILIZER & CHEMICALS LTD, Haifa (Israel) / yellow sheet 6164, 3 x 100 g)

After a first negative industrial trial (9) three new samples ("UD-7", "UH-12", "UF-3") were submitted for analysis.

In all the samples, the ash-content was found to be slightly too high. The other parameters were within the specifications.

It was decided to organize an industrial trial with the quality "UD-7". Therefore, 50 kg were ordered (16/11/81)

### 3.2.2. QUALITY CONTROL OF TOBACCO INGREDIENTS

- Honey (SCHÜTTE, Bremen)

On a PME-level, different problems were encountered concerning the quality and the origin of the product of the last deliveries.

Therefore, a meeting between representatives of MPP Lausanne QA and the supplier was organized. We were informed that the crop of YUCATAN-honey is harvested in four periods and sometimes important differences in taste and quality may be seen between them. In order to maintain a regular quality it was decided that the supplier should cover PME needs only with honey from the second crop (February-April). Furthermore, as about 10 % of the drums are regularly analysed by the "HONIGINSTITUT" of Bremen, the results will be sent to Q.A. (10).

Trials to qualify other origins and suppliers were intensified.

In addition, QA managers of all PME affiliates were informed that they should apply a re-inforced incoming check on all honey supplies (11).

- Liquorice extract (MAC ANDREWS & FORBES, Camden (USA) / blue sheet 8036) (12)

The analysis of saccharose in the sample was repeated by the Laboratory of the Customs Offices. Their first value (above 10 % saccharose) was confirmed and therefore their claim was maintained (13). We were informed that the method used was ESCHMANN-POTTERAT.

This method is based on the FEHLING-reaction. The precipitated copper (I) is dissolved and determined by means of a complexometric titration. The content of saccharose is calculated as being the difference in the sample before and after inversion. The inversion method should not affect either the glycyrrhizic acid or the polysaccharides.

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Using the ESCHMANN-POTTERAT method, we confirmed the value found by the Customs Offices. In addition, the results found by HPLC were also confirmed. By varying the time of inversion in the ESCHMANN-POTTERAT - method, the content of saccharose was found to be different. This means that the longer the inversion time was, the higher became the saccharose content. Later, it was found that, in spite of the claim of the Customs Offices, polysaccharides were hydrolysed during inversion and determined as saccharose. On the basis of these results, an appeal against the decision of the Customs Offices was filed (14).

The appeal was granted after the Customs Laboratories found a saccharose content of 7.2 % determined by TLC (15).

- Sodium chloride (Supplier: SOCIETE D'AGRICULTURE ET DE VITICULTURE, Cornaux; Producer: RHEINSALINEN AG, Schweizerhalle / yellow sheet 5842, 1000 kg) (16).

Concentrated yellow spots were observed on the contents of the last 2 sacks of this shipment. They had obviously been caused by an inhomogenous application of the anti-caking agent.

As the supplier did not agree to take back the two sacks in question, we will find a new supplier of sodium chloride.

### 3.5.1. TRIALS WITH FILTER GLUES

- Liquid glue for KDF II (filter rod seam)
- "LESSO 1793 - D2" (LAESSER AG, Erlinsbach/ yellow sheet 6135, 40 kg) (17)

Machineability: The filter rods were produced at maximum speed. However, some interruptions were caused when rods were not glued because of insufficient heating of the heating blocks.

Storage: No opening of the rod seam was observed after two months.

Smoke analysis: No significant difference was observed between the standard and the trial (MLF-CH).

Subjective evaluation: No significant difference was found between the standard and the trial. The trial was accepted.

100 kg were ordered for a long-term test. The test will be organized when some technical modifications of the heating blocks have been made.

- "SICHOPLAST A 7094 V" and "SICHOPLAST A 7094"  
(Henkel & Cie AG, Pratteln (CH), 2 x 10 kg) (9)

Machineability: The type "SICHOPLAST A 7094" could only be run at reduced machine speed. It was therefore eliminated for further investigation. The type "SICHOPLAST A 7094 V" was applied at maximum machine speed. However, some interruptions were caused due to insufficient heating of the heating blocks.

Storage: No opening of the rod seam was observed after two months.

Smoke analysis: No significant difference was found between the standard and the trial (MLF-CH).

Subjective evaluation: A significant difference between the standard and the trial was found. The trial was rejected.

Further trials will be planned when some technical modifications of the heating blocks have been made.

### 3.6.1. TRIALS WITH TIPPING GLUES

- "5008 A 33" (WIKOLIN POLYMER) (3)

Two long-term tests with 126 kg and 600 kg were organized in PMG-Munich.

During the second test a slight separation of the glue into a "thick" and a "thin" layer was observed. This led to glueing difficulties due to inhomogeneity of the glue.

In a further long-term test the glue will be agitated at regular intervals in order to avoid its separating into two layers.

- "1516 G V 12" (LAESSER AG, Erlinsbach / yellow sheet: 5970, 30 kg; 6054, 100 kg; 6109, 3000 kg)

The purpose of this series of trials was to reduce the pressure on the rollers and consequently to reduce the heating of the glue. The viscosity of the glue was therefore decreased by adding more water to the basic formula (18).

The results obtained were promising, especially on MAX S (19). No significant difference between the trial and the standard was found (MLF-CH) in either the analytical results or the subjective evaluation.

However, at the end of the trials glueing problems were encountered with the porous paper. Therefore, this glue modification will not be introduced for the moment.

### 3.8.1. TRIALS WITH PACKING GLUES

- It was planned to speed up a MOLINS HL packing machine in Cousset to 250 HLP/min. Due to different mechanical problems, the machine is not yet functional at this speed. However, a series of trials was organized in view of the higher speed.  
All these trials were run at 225 HLP/min.

- "LESSO V 3" (LAESSER AG, Erlinsbach / yellow sheet 6110, 500 kg)

The glueing properties on the machine were satisfactory. However, a tendency to form a film and a layer of foam on the surface was observed.  
A further trial with a slightly modified glue was organized.

- "LESSO V 3 A" (LAESSER AG, Erlinsbach / yellow sheet 6149, 30 kg)

The glueing properties on the machine were satisfactory. However, only a slight improvement as regards the problems of the formation of a film and foam was observed. In order to eliminate these problems, a further trial is planned.

- "ELOTEX 31/00" and "ELOTEX 31/08" (EBNÖTHER AG, Sarnen/ yellow sheet 6166, 2 x 5 kg)

The type "ELOTEX 31/00" presented glueing problems on the machine and was therefore eliminated.

The glueing properties of the type "ELOTEX 31/08" were satisfactory. However, the same problems as regards the formation of a film and a layer of foam were observed.

On the basis of type "31/08" a further trial will be organized.

### 3.13.1. TRIALS ON PACKING MATERIALS

- Comparison between cellophane and polypropylene as a packing material (20)

In connection with spotted MPK-cigarettes detected in the Ivory-Coast the question was raised as to whether a difference in protection can be found between packs made of cellophane and packs made of polypropylene.

MLF-packs, one part packed in cellophane, the other part in polypropylene, were submitted to a constant relative air-moisture (76 % and 92 %) and a constant temperature (20°C). Samples of these packs were taken at regular intervals and the cigarettes were examined to determine the tobacco moisture and to see if spots had formed.

The conclusions which can be drawn are the following:

- Neither cellophane packs nor polypropylene packs give an absolute and reliable protection against high air-moisture.
- Polypropylene packs are more resistant to the influence of moisture than cellophane packs.

### 5.1. PRODUCT QUALITY

- Spots on PMS-cigarettes manufactured in PMG Munich (21)

The moisture content of the tobacco of cigarettes without spots was found to be 14.0 %. However, segments of tobacco from cigarettes having spots contained up to 17.6 % moisture. The spots were caused by a too-high local moisture content.

### 5.2. SPECIAL PROBLEMS

- Water analyses in the heating-plant (22)

Following several problems in the installation, the analyses performed by the Production Department in the heating-plant were checked in the laboratory. No significant differences were found between the results of the laboratory and those of the heating-plant (pH, conductivity, phosphate and sulphite by colometric reactions, hardness, p- and m-value by titration). In some cases instructions and new equipment were given in order to avoid systematic errors and to improve control procedures.

### 5.3. ASSISTANCE TO OTHER AFFILIATES

- Analyses for the ETNA-plant in PMH, Bergen op Zoom: Humectants in tobacco (33 samples)

### REFERENCES

- 1 Letter from Schwarb-A to the CASING KITCHEN (Nov. 9 1981)
- 2 Monthly report Widmer-A (December 1980)
- 3 Monthly report Widmer-A (May 1981)
- 4 Letter from Widmer-A to Tessendorf-W (November 3 1981)
- 5 Telex from Widmer-A to Van Duuren-B (November 10 1981)
- 6 Telex from Guyot-J to Völkl-G (August 17 1981)
- 7 Letter from Widmer-A to Tessendorf-W (November 3 1981)
- 8 Letter from Widmer-A to Froidevaux-R (November 23 1981)
- 9 Monthly report Widmer-A (July 1981)
- 10 Report of visit from Froidevaux-R (September 30 1981)
- 11 Letter from Widmer-A (August 31 1981)
- 12 Monthly report Widmer-A (April 1981)
- 13 Letter from "Direction du 1er arrondissement des douanes" (June 22 1981)  
Letter from Jeannotat-R to Suter-R and Widmer-A (July 1 1981)
- 14 Letter to "Direction générale des Douanes" (July 21 1981)  
Report from Widmer-A (July 22 1981)
- 15 Letter from "Direction générale des Douanes" (October 26 1981)  
Letter from Jeannotat-R to Widmer-A (October 27 1981)
- 16 Monthly report Widmer-A (October 1980)
- 17 Monthly report Widmer-A (August 1981)
- 18 Letter from Laesser-H to Widmer-A (May 26 1981)
- 19 Report from Gast-R (March 1981)
- 20 Report from Keller-I (November 10 1981)
- 21 Telex from Schwarb-A to Janke-W (November 2 1981)
- 22 Letter from Schwarb-A and Keller-I to Amsler-W (October 30 1981)

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